

Work Order ID 165096

Tuesday, August 15, 2017 10:51:18 AM

165096

Ship 11 Sept

Page 1

Item ID: D117-762-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube with Standard Wearplates Fits LH or RH

Stop

NS2

Start Date: 8/17/2017 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 8/29/2017 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: **DAS 21 9-89**

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____ Date: **DAS 21 9-89**

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

DSI9771

A

IIN-D117-762

E

AUG 21 2017

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Document Control
DOCUMENT CONTROL

0.00

100

DC

Memo

1.50

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D117-762-011

CHG004

DAS 28 9-89

SEP 05 2017

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

closed at zero

DAS 21 9-89

AUG 22 2017

Work Order ID 165096

Tuesday, August 15, 2017 10:51:18 AM

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Page 2

Item ID: D117-762-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skidtube with Standard Wearplates Fits LH or RH
Start Date: 8/17/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/29/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.03							
Quality Control									
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D117-762-011 Location :FG081								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.10							
Quality Control									

DAS
21
9-89

SEP 26 2017

Picklist Print

Tuesday, August 15, 2017 10:51:21 AM

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Work Order ID: 165096

165096

Parent Item: D117-762-011

D117-762-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 8/17/2017

Required Date: 8/29/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A07.06.11New Issue EC
 IPP Rev:B 08-02-22 change to revA DD verified by:ec
 IPP Rev C 08.12.19 incorporated DSI9435 EC verified by:DD
 IPP REV:D 13.11.14 IIN REV.C DD VERF:JLM IPP
 REV:E 15.06.11 IIN REV.D DD VERF:JLM IPP REV:F
 17.01.17 PER CHG004 (dsi9771) DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN6C52A *AN6C52A* BOLT		Purchased	No			110	Each	25.0000	2	2			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					ST333			25					
					m137490			5					
					<u>m138281</u>			20					
D5300-1 *D5300-1* GHL Bushing		Manufactured	No			110	Each	1.0000	2	2			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					ST162			1					
					163432			1					
D5301-1 *D5301-1* GHL Plug		Manufactured	No			110	Each	4.0000	2	2			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					ST162			4					
					162337			4					
D117-762-041 *D117-762-041* Replacement Skidtube		Manufactured	No			110	Each	0.0000	1	1			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					ST162			4					
					162337			4					

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27
9-89

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DAS
27
9-89

DAS
6
9-89
AUG 31 2017

DAS
27
9-89

DAS
6
9-89
SEP 01 2017

Picklist Print

Tuesday, August 15, 2017 10:51:21 AM

Page 2

Work Order ID: 165096

165096

Parent Item: D117-762-011

D117-762-011

Parent Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 8/17/2017

Required Date: 8/29/2017

Start Qty: 1.00

Required Qty: 1.00

D3512-041

Manufactured No

110 Each

11.0000

2 2

D3512-041

Wearplate

DAS
28
9-89

Location

Loc Qty

Loc Code

ST610

11

~~163362~~

11

**

B163362

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AUG 31 2017

DAS
6
9-89

MS21043-6

Purchased No

110 Each

58.0000

2 2

MS21043-6

NUT

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

20

103693

20

FP001

28

m135470

2

m138040

26

ST302

10

m137479

10

**

AUG 22 2017

DAS
27
9-89

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-762 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-762 REV. 4

REF FAA STC: SR01853SE

REF: TC LETTER OF ACCEPTANCE RDIMS-4374899

REF EASA STC: EASA.10017063

1.0 PURPOSE

The purpose of this Dart Service Instruction (DSI) is to replace the ground handling lugs (D3864-1 Bushings, AN6C51A Bolts and MS21043-6 Nuts) on the D117-762-XXX Skid tubes with a structurally superior lug design (D5300-1 Bushings, D5301-1 Plugs, AN6C52A Bolts, MS21043-6 Nuts) as shown in Figure 1. The new hardware will be included in D117-762-011 @ CHG 004 and subsequent.

2.0 INSTALLATION

For D117-762-011 @ CHG 004 and subsequent, the ground handling hardware should be installed as follows:

- 2.1 Loosely install (qty 2) D5300-1 GH L Bushing & (qty 2) D5301-1 GH L Plug wet with Proseal 890 or MIL-S-8802 Class B2 Sealant in location shown in Figure 1.
- 2.2 Install (qty 2) AN6C52A Bolts and (qty 2) MS21043-6 Nuts in accordance with Figure 1. Clean up squeezed out Proseal and apply fillet seal around D5300-1 & D5301-1.
- 2.3 Torque AN6C52A Bolts 160 - 190 in-lbs (18.1 - 21.5 N-m).

3.0 PARTS LIST

For D117-762-011 @ CHG 004 and subsequent, the Part List in IIN-D117-762 and ICA-D117-762 is modified as follows:

IS

ITEM	QTY -011	PART NUMBER	DESCRIPTION
	X	D117-762-011	SKIDTUBE INSTALLATION
50	2	AN6C52A	BOLT
51A	2	D5300-1	GH L BUSHING
51B	2	D5301-1	GH L PLUG
52	2	MS21043-6	NUT

SHOE COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 165096 (M5)
170811

A	NEW ISSUE	RF	17.01.09
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE, LTD EUGENE, OR	
DRAWN	RF		
CHECKED	WK	DRAWING NO.	REV.A
MFG. APPR.	N/A	DSI 9771	SHEET 1 OF 2
APPROVED	HS	TITLE	SCALE
DE APPR.		GHL UPGRADE KIT	NTS
DATE	17.01.09	COPYRIGHT ©2017 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE, LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

WAS

ITEM	QTY -011	PART NUMBER	DESCRIPTION
	X	D117-762-011	SKIDTUBE INSTALLATION
50	2	AN6C51A	BOLT
51	4	D3864-1	BUSHING
52	2	MS21043-6	NUT

4.0 WEIGHT AND BALANCE

There is negligible weight and balance change associated with this modification.

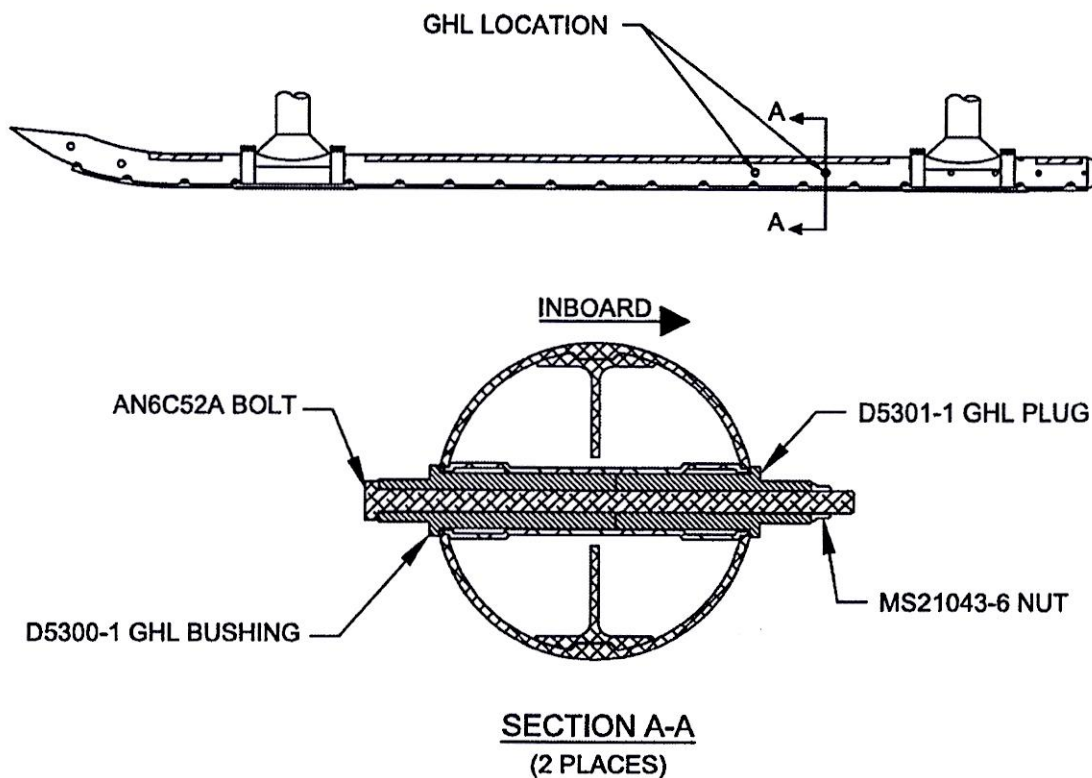


FIGURE 1 - GHL UPGRADE INSTALLATION

DESIGN	RF	DART AEROSPACE, LTD	
DRAWN	RF	EUGENE, OR	
CHECKED	WK	DRAWING NO.	REV.A
MFG. APPR.	N/A	DSI 9771	SHEET 2 OF 2
APPROVED	HS	TITLE	SCALE
DE APPR.		GHU UPGRADE KIT	NTS
DATE	17.01.09	COPYRIGHT © 2017 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE, LTD.	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
* Misidentified ☐	Past Due ☐																																																																

5.0 PARTS LIST

REFERENCE ONLY

5.1 D117-762-011 Skidtube Parts List

Item	Qty -011	Qty -041	Part Number	Description
	X		D117-762-011	SKIDTUBE INSTALLATION
	1	X	D117-762-041	REPLACEMENT SKIDTUBE
1		1	D3582-041	SKIDTUBE ASSEMBLY
2	2		**1121-51002	SKID SHOE
3	2		**1121-51102	CLAMPING RING
4	8		**LN9380M8X45	HEXAGON BOLT
5	8		**LN9023A8-1.4544.9	LOCKING WASHER
6	8		**LN9025-0815K	WASHER (OR LN9025-0815L)
10		1	*D2965	CAP
11		2	***AELS-1032-225	INSERT
12		2	*AN3C5A	BOLT
13		2	*NAS1149C0332R	WASHER (OR AN960C10L)
20A		1	*D3508-9	WEARPLATE
20B		1	*D3558-9	GASKET
21A		1	*D3508-3	WEARPLATE
21B		1	*D3558-3	GASKET
22A		1	*D3508-11	WEARPLATE
22B		1	*D3558-11	GASKET
23A		1	*D3508-13	WEARPLATE
23B		1	*D3558-13	GASKET
24		36	*AELS-1032-130	INSERT
25	8	28	*AN3C4A	BOLT
26	8	28	*NAS1149C0332R	WASHER (OR AN960C10L)
27	2		D3512-041	WEARPLATE
30		2	*AELS-1032-130	INSERT
31		2	*AN3C4A	BOLT
32		2	*NAS1149C0332R	WASHER (OR AN960C10L)
50	2		AN6C51A	BOLT
51	4		D3864-1	BUSHING
52	2		MS21043-6	NUT

* PART IS INCLUDED WITH D3582-041 SKIDTUBE ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY

*** DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-762 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-762 REV. 4

REF FAA STC: SR01853SE

REF: TC LETTER OF ACCEPTANCE RDIMS-4374899

REF EASA STC: EASA.10017063

1.0 PURPOSE

The purpose of this Dart Service Instruction (DSI) is to replace the ground handling lugs (D3864-1 Bushings, AN6C51A Bolts and MS21043-6 Nuts) on the D117-762-XXX Skidtubes with a structurally superior lug design (D5300-1 Bushings, D5301-1 Plugs, AN6C52A Bolts, MS21043-6 Nuts) as shown in Figure 1. The new hardware will be included in D117-762-011 @ CHG 004 and subsequent.

2.0 INSTALLATION

For D117-762-011 @ CHG 004 and subsequent, the ground handling hardware should be installed as follows:

- 2.1 Loosely install (qty 2) D5300-1 GHL Bushing & (qty 2) D5301-1 GHL Plug wet with Proseal 890 or MIL-S-8802 Class B2 Sealant in location shown in Figure 1.
- 2.2 Install (qty 2) AN6C52A Bolts and (qty 2) MS21043-6 Nuts in accordance with Figure 1. Clean up squeezed out Proseal and apply fillet seal around D5300-1 & D5301-1.
- 2.3 Torque AN6C52A Bolts 160 - 190 in-lbs (18.1 - 21.5 N-m).

3.0 PARTS LIST

For D117-762-011 @ CHG 004 and subsequent, the Part List in IIN-D117-762 and ICA-D117-762 is modified as follows:

IS

ITEM	QTY -011	PART NUMBER	DESCRIPTION
	X	D117-762-011	SKIDTUBE INSTALLATION
50	2	AN6C52A	BOLT
51A	2	D5300-1	GHL BUSHING
51B	2	D5301-1	GHL PLUG
52	2	MS21043-6	NUT

A	NEW ISSUE	RF	17.01.09
REV.	DESCRIPTION		BY DATE
DESIGN	RF	DART AEROSPACE, LTD EUGENE, OR	
DRAWN	RF		
CHECKED	WK	DRAWING NO.	REV.A
MFG. APPR.	N/A	DSI 9771	SHEET 1 OF 2
APPROVED	HS	TITLE	SCALE
DE APPR.		GHL UPGRADE KIT	NTS
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Work Order ID 165096

Tuesday, August 15, 2017 10:51:18 AM

165096

Ship 11 Sept

Page 1

Item ID: D117-762-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube with Standard Wearplates Fits LH or RH

Start Date: 8/17/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/29/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

DSI9771

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IIN-D117-762

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100

Document Control

DOCUMENT CONTROL

AUG 21 2017

0.00

100

DC

Memo

1.50

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D117-762-011

CHG004

15

17/8/31

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

Change Record

PAGE 1 OF 1

Part Number: D117-762-011Description: SKIDTUBE[illegible]